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| EXAMINER |
|---|
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# BEFORE THE BOARD OF PATENT APPEALS
# AND INTERFERENCES

Application Number: 10/036,927
Filing Date: October 19, 2001
Appellant(s): DAS ET AL.

**MAILED**

**JAN 1 1 2007**

**GROUP 2600**

John E. Curtin
**For Appellant**

## EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/3/2006 appealing from the Office action

mailed 4/10/2006.

### (1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

### (2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

### (3) Status of Claims

The statement of the status of claims contained in the brief is correct.

### (4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

### (5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

### (6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

### (7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

### (8) Evidence Relied Upon

| | | |
|---|---|---|
| 2003/0081692 | Kwan | 5-2003 |
| 6366568 | Bolgiano | 4-2002 |

### (9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The Final Rejection filed 1/12/2006 is hereby reproduced for convenience:

### *Claim Rejections - 35 USC § 102*

1.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.      Claims 1-13, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by

Kwan (US App No. 10/184,022)..

Re claim 1:

Kwan discloses an optimized adaptive modulation technique utilizing fixed

length frames, each divided into time slots of equal duration (Paragraph [0078] "3

slots = 2ms"), transmitting a code multiplexed transmission where the number of

codes is variable based on the communication channel (Paragraph [0011]

"selecting a number of channelization codes and a modulation and coding

scheme from among a plurality of MCs...according to sad time varying radio link quality").

Re claim 2:

Kwan teaches redundancy that is a function of the number of codes (Paragraph 0021 "selecting an MCS capable of achieving a specified error measure" and Table 3). If the quality of the channel falls below a certain level, the amount of code used is increased to compensate for the lower quality, as shown in Table 3. The increase in code increases the amount of redundancy as well.

Re claim 3:

Kwan determines the condition of a channel based on quality-based parameters and available resources (Paragraph [0012] "allowed channelization codes are listed..only code channels are listed that provide a higher bit rate").

Re claim 4:.

Kwan discloses transmission of a combination of one or more signal transmissions (Paragraph [0190] "Node B could allocate UE1 QPSK ½ with 4 codes...and UE2 QPSK ¾ with 6 codes").

Re claim 5:

Kwan discloses a method where the number of codes for a first transmission the same as the number of codes for a subsequent transmission (Parapraph [0057, 0069] "N=number of channelization codes used/user" and "the value for N can remain the same").

Re claim 6:

Kwan discloses a method using different number of codes for a first

transmission and a subsequent transmission (Paragraph [0057, 0067]

"N=number of channelization codes user/user" and "N will be increased again to

increase the number of codes used per user").

Re claim 7:

Kwan discloses a method "capable of carrying multiple simultaneous

transmissions by using one or more different codes for each of the multiple

simultaneous transmissions" (Paragraph [0190] and Table 3 "Ue1 QPSK ½ with

4 codes...UE2 QPSK ¾ with 6 codes").

Re claim 13:

Kwan discloses frames with duration of 2 milliseconds and a plurality of

slots, each 0.67 milliseconds (Paragraph [0078] "length in HSDPA ... is 3 slots =

2 ms" and Figure 7).

Re claim 20:

Kwan discloses a method that transmits a ACK/NACK in the same frame

for the same user (Paragraph [0079] "ack/nak will reserve 1 slot").

Re claims 1-13, 20:

Kwan discloses a method that is capable of retransmission. It is inherent

in the design of the method for first transmissions. A retransmission follows the

same method as a retransmission, so when Kwan has a method that takes the

quality of the channel is taken into consideration this applies to retransmissions as well because they use the same method.

Subsequently, [Claim 4] Kwan is capable of transmitting a combination of new transmissions and previous transmissions, because they use the same method. [Claims 8-12] It is inherent that multiple simultaneous transmissions include [Claim 8] a plurality of first transmissions from different users, [Claims 9 and 10] retransmissions of previous transmissions from the same or different users, [Claims 11 and 12] first transmission and one or more retransmission from the same or different users.

## *Claim Rejections - 35 USC § 103*

3.    The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.    Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwan in view of Bolgiano (US 6,366,568).

Re claims 14-19:

[Claims 14-19] As discussed above, Kwan discloses a method using fixed length frames and sending a retransmission of a previous transmission. Kwan further discloses using ARQ (Paragraph [0131] "different transport channels should have separate HARQ processes"). Kwan also discloses transmitting in a

code and frequency domain (Figure 5. "Coding and Multiplexing" and Paragraph

[0007] "on top of the benefits attributed to fat-pipe multiplexing, AMC combined

with time domain scheduling"). [Claim 16] Kwan additionally discloses defining

the frequency domain with modulation and code (Table 3).

Kwan does not explicitly disclose using a transmission domain selected

from a space domain and defining the transmission formats based on certain

parameters.

[Claims 14-19] Bolgiano discloses a method using code domain,

frequency domain, and space domain (Col. 2 lines 27-29 "using time division

multiple access (TDMA) in various combinations with CDMA and space diversity

antennas"). [Claims 16,18, and 19] Bolgiano also discloses defining the code,

frequency, and space domains parameters (Col. 3 lines 2-3 and 7-10 "system

using CDMA to modulate a TDMA signal which is transmitted from three space

diversity antennas" and "TDMA signals used to transmit multiple repetitions of the

same data packet...one of the three space diversity antennas"; Col. 16 line 43

"each antenna is assigned a separate center frequency"; Col. 17 lines 12-14 "the

transfer station converts the TDMA protocol to a time slotted CDMA triple

space/time diversity air interface protocol"; Col. 17 lines 35-36 "the PN code

continues to run and is different during each time slot").

It would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Kwan to use the space domain in transmission and define

the transmission domains based on certain parameters as taught by Bolgiano in

order to provide a space diversity system that would prevent fading.


**(10) Response to Argument**

Appellant's arguments on pgs. 3-4 of the Brief filed 6/6/2006 have been fully

considered but they are not persuasive.

On pgs.3-4 of the Brief regarding claims 1-20, Appellant contends that

Kwan does not disclose or suggest a retransmission method where the number

of codes used for the retransmission is variable based on the condition of a

communication channel.

The Examiner respectfully disagrees. As shown in the Final Rejection

filed 1/12/2006, Kwan discloses a transmission method where the number of

codes used for the transmission is variable based on the condition of a

communication channel (Kwan Para.[0011]). Kwan further discloses using

retransmission (Para.[0146]). The transmission method disclosed by Kwan

applies to all types of transmission used by Kwan, including retransmissions.

Therefore it is inherent in the transmission method of Kwan that retransmissions

will also vary the number of codes based on the condition of a communication

channel.


On pg.4 of the Brief regarding claims 14-19, Appellant contends that Kwan

does not disclose or suggest fixed duration retransmissions of previous

transmissions in a domain selected from the group consisting of a code domain,

a frequency domain, and a space domain.

The Examiner respectfully disagrees. As discussed above, Kwan

discloses retransmission of previous transmissions. Kwan further discloses fixed

duration retransmissions (Kwan Para.[0078]). Kwan further discloses

transmissions in a domain selected from a code domain and a frequency domain

(Fig.5 "Coding and Multiplexing" and Para.[0007]).

Furthermore, the Examiner relies on Bolgiano, not Kwan, for disclosing

transmissions in a space domain.


On pg.4 of the Brief regarding claims 14-19, Appellant contends that

Bolgiano does not make up for the deficiencies of Kwan.

The Examiner respectfully disagrees. Bolgiano discloses a method using

code domain, frequency domain, and space domain (Col.2 lines 27-29).

Furthermore Bolgiano does not need to meet the limitations of retransmission

because Kwan discloses retransmission as discussed above.


For the above reasons, it is believed that the rejections should be sustained.


## (11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the

Related Appeals and Interferences section of this examiner's answer.

Respectfully submitted,

Mohammad Sajid Adhami

MSA

1/8/2007


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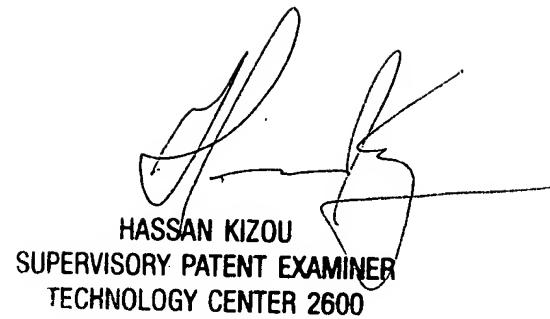
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